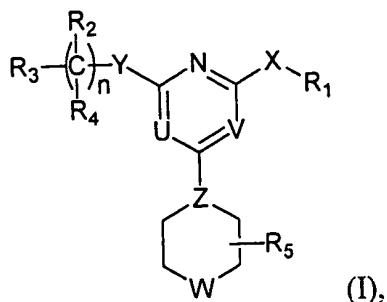


**WHAT IS CLAIMED IS:**

### 1. A compound of formula (I)



wherein

$R_1$  is  $\text{N}=\text{C}(\text{R}^a)(\text{R}^b)$ , aryl, or heteroaryl;

each of  $R_2$  and  $R_4$ , independently, is  $R^c$ , halogen, nitro, cyano, isothionitro,  $SR^c$ , or  $OR^c$ ; or  $R_2$  and  $R_4$ , taken together, is carbonyl.

$R_3$  is  $R^c$ , alkenyl, alkynyl,  $OR^c$ ,  $OC(O)R^c$ ,  $SO_2R^c$ ,  $S(O)R^c$ ,  $S(O_2)NR^cR^d$ ,  $SR^c$ ,  $NR^cR^d$ ,  $NR^cCOR^d$ ,  $NR^cC(O)OR^d$ ,  $NR^cC(O)NR^cR^d$ ,  $NR^cSO_2R^d$ ,  $COR^c$ ,  $C(O)OR^c$ , or  $C(O)NR^cR^d$ ;

$R_5$  is H or alkyl;

$n$  is 0, 1, 2, 3, 4, 5, or 6;

X is O, S, S(O), S(O<sub>2</sub>), or NR<sup>c</sup>;

Y is a covalent bond,  $\text{CH}_2$ ,  $\text{C}(\text{O})$ ,  $\text{C}=\text{N}-\text{R}^c$ ,  $\text{C}=\text{N}-\text{OR}^c$ ,  $\text{C}=\text{N}-\text{SR}^c$ , O, S,  $\text{S}(\text{O})$ ,  $\text{S}(\text{U}_2)$ , or

NR<sup>c</sup>.

Z is N or CH:

one of U and V is N, and the other is CR<sup>c</sup>; and

W is O, S, S(O), S(O<sub>2</sub>), NR<sup>c</sup>, or NC(O)R<sup>c</sup>;

in which each of  $R^a$  and  $R^b$ , independently, is H, alkyl, aryl, heteroaryl; and each of  $R^c$  and  $R^d$ , independently, is H, alkyl, aryl, heteroaryl, cyclyl, heterocyclyl, or alkylcarbonyl.

2. The compound of claim 1, wherein  $R_1$  is 

3. The compound of claim 2, wherein U is N and V is CH.

26 4. The compound of claim 2, wherein Z is N and W is O.

27  
28 5. The compound of claim 2, wherein X is NR<sup>c</sup>.

29  
30 6. The compound of claim 5, wherein R<sup>c</sup> is H, methyl, ethyl, or acetyl.

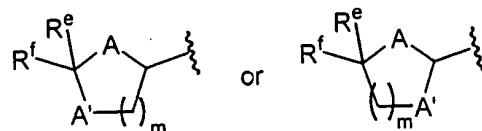
31  
32 7. The compound of claim 2, wherein Y is O or CH<sub>2</sub>, and n is 0, 1, 2, 3, or 4.

33  
34 8. The compound of claim 7, wherein R<sub>3</sub> is aryl or heteroaryl.

35  
36 9. The compound of claim 8, wherein R<sub>3</sub> is pyridinyl.

37  
38 10. The compound of claim 7, wherein R<sub>3</sub> is OR<sup>c</sup>, SR<sup>c</sup>, C(O)OR<sup>c</sup>, or C(O)NR<sup>c</sup>R<sup>d</sup>.

39  
40 11. The compound of claim 7, wherein R<sub>3</sub> is



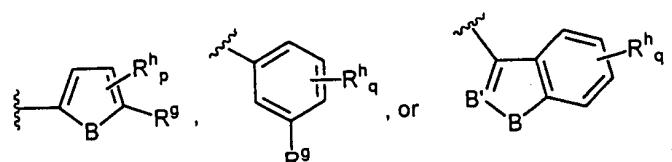
42 in which

43 each of A and A', independently, is O, S, or NH;

44 each of R<sup>e</sup> and R<sup>f</sup>, independently is H, alkyl, aryl, or heteroaryl; and

45 m is 1 or 2.

46  
47 12. The compound of claim 2, wherein one of R<sup>a</sup> and R<sup>b</sup> is



49 in which

50 B is NR<sup>i</sup>, O, or S;

51 B' is N or CR<sup>i</sup>;

52 R<sup>g</sup> is H, alkyl, or alkoxy;

53           R<sup>h</sup> is halogen, NO<sub>2</sub>, CN, alkyl, aryl, heteroaryl, OR<sup>c</sup>, OC(O)R<sup>c</sup>, SO<sub>2</sub>R<sup>c</sup>, S(O)R<sup>c</sup>,  
 54           S(O<sub>2</sub>)NR<sup>c</sup>R<sup>d</sup>, SR<sup>c</sup>, NR<sup>c</sup>R<sup>d</sup>, NR<sup>c</sup>COR<sup>d</sup>, NR<sup>c</sup>C(O)OR<sup>d</sup>, NR<sup>c</sup>C(O)NR<sup>c</sup>R<sup>d</sup>, NR<sup>c</sup>SO<sub>2</sub>R<sup>d</sup>, COR<sup>c</sup>,  
 55           C(O)OR<sup>c</sup>, or C(O)NR<sup>c</sup>R<sup>d</sup>;

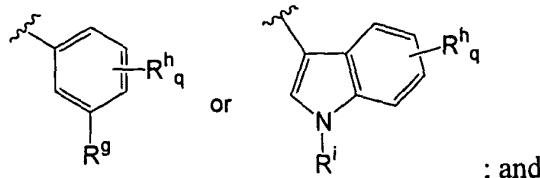
56           R<sup>i</sup> is H, alkyl, or alkylcarbonyl;

57           p is 0, 1, or 2; and

58           q is 0, 1, 2, 3, or 4.

59

60       13. The compound of claim 12, wherein one of R<sup>a</sup> and R<sup>b</sup> is



61

62           the other of R<sup>a</sup> and R<sup>b</sup> is H or alkyl.

63

64       14. The compound of claim 13, wherein R<sup>g</sup> is H, methyl, ethyl, propyl, cyclopropyl,  
 65           methoxy, or ethoxy; R<sup>h</sup> is F, Cl, CN, methyl, methoxy, ethoxy, OC(O)CH<sub>3</sub>, OC(O)C<sub>2</sub>H<sub>5</sub>,  
 66           C(O)OH, C(O)OC<sub>2</sub>H<sub>5</sub>, C(O)NH<sub>2</sub>, NHC(O)CH<sub>3</sub>, or S(O<sub>2</sub>)NH<sub>2</sub>; R<sup>i</sup> is H, methyl, ethyl, or  
 67           acetyl, and q is 0, 1, or 2.

68

69       15. The compound of claim 14, wherein R<sup>g</sup> is methyl or methoxy; R<sup>i</sup> is H; and q is 0.

70

71       16. The compound of claim 14, wherein U is N and V is CH.

72

73       17. The compound of claim 16, wherein Z is N and W is O.

74

75       18. The compound of claim 17, wherein X is NR<sup>c</sup>; and R<sup>c</sup> is H, methyl, ethyl, or acetyl.

76

77       19. The compound of claim 18, wherein Y is O or CH<sub>2</sub>; and n is 0, 1, 2, 3, or 4.

78

79       20. The compound of claim 19, wherein R<sub>3</sub> is aryl or heteroaryl.

80

81 21. The compound of claim 20, wherein R<sub>3</sub> is pyridinyl.

82

83 22. The compound of claim 14, wherein Y is O or CH<sub>2</sub>, and n is 0, 1, 2, 3, or 4.

84

85 23. The compound of claim 22, wherein R<sub>3</sub> is aryl or heteroaryl.

86

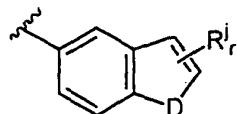
87 24. The compound of claim 22, wherein R<sub>3</sub> is pyridinyl.

88

89 25. The compound of claim 1, wherein R<sub>1</sub> is aryl or heteroaryl.

90

91 26. The compound of claim 25, wherein R<sub>1</sub> is



92

93 in which

94 D is O, S, or NR<sup>m</sup>;

95 R<sup>j</sup> is benzo, halogen, CN, hydroxyl, alkyl, aryl, heteroaryl, alkoxy, aryloxy, or

96 heteroaryloxy;

97 R<sup>m</sup> is H, alkyl, or alkylcarbonyl; and

98 r is 0, 1, or 2.

99

100 27. The compound of claim 26, wherein X is NR<sup>c</sup>; and R<sup>c</sup> is H, methyl, ethyl, or acetyl.

101

102 28. The compound of claim 27, wherein U is N and V is CH.

103

104 29. The compound of claim 28, wherein Z is N and W is O.

105

106 30. The compound of claim 29, wherein Y is O or CH<sub>2</sub>; and n is 0, 1, 2, 3, or 4.

107

108 31. The compound of claim 26, wherein Y is O or CH<sub>2</sub>; and n is 0, 1, 2, 3, or 4.

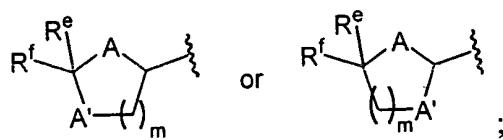
109

110 32. The compound of claim 31, wherein R<sub>3</sub> is aryl or heteroaryl.

111  
112 33. The compound of claim 32, wherein R<sub>3</sub> is pyridinyl.

113  
114 34. The compound of claim 31, wherein R<sub>3</sub> is OR<sup>c</sup>, SR<sup>c</sup>, C(O)OR<sup>c</sup>, or C(O)NR<sup>c</sup>R<sup>d</sup>.

115  
116 35. The compound of claim 31, wherein R<sub>3</sub> is



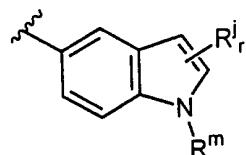
118 in which

119 each of A and A', independently, is O, S, or NH;

120 each of R<sup>e</sup> and R<sup>f</sup>, independently is H, alkyl, aryl, or heteroaryl; and

121 m is 1 or 2.

122  
123 36. The compound of claim 31, wherein R<sub>1</sub> is

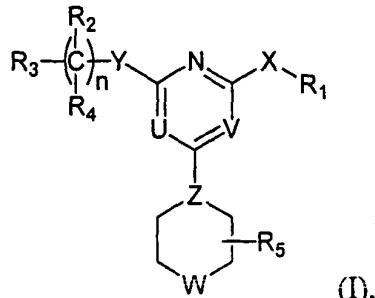


125  
126 37. The compound of claim 36, wherein R<sup>j</sup> is methyl, ethyl, propyl, or benzo; and r is 1 or 2.

127

128

128 38. A method for treating an interleukin-12 overproduction-related disorder, comprising  
 129 administering to a subject in need thereof an effective amount of the compound of  
 130 formula (I):



131

132 wherein

133

134  $R_1$  is  $\begin{array}{c} R^a \\ | \\ N=C \\ | \\ R^b \end{array}$ , aryl, or heteroaryl;

135

136 each of  $R_2$  and  $R_4$ , independently, is  $R^c$ , halogen, nitro, cyano, isothionitro,  $SR^c$ , or  
 137  $OR^c$ ; or  $R_2$  and  $R_4$ , taken together, is carbonyl.

138  $R_3$  is  $R^c$ , alkenyl, alkynyl,  $OR^c$ ,  $OC(O)R^c$ ,  $SO_2R^c$ ,  $S(O)R^c$ ,  $S(O_2)NR^cR^d$ ,  $SR^c$ ,  $NR^cR^d$ ,  
 139  $NR^cCOR^d$ ,  $NR^cC(O)OR^d$ ,  $NR^cC(O)NR^cR^d$ ,  $NR^cSO_2R^d$ ,  $COR^c$ ,  $C(O)OR^c$ , or  $C(O)NR^cR^d$ ;

140  $R_5$  is H or alkyl;

141  $n$  is 0, 1, 2, 3, 4, 5, or 6;

142  $X$  is O, S,  $S(O)$ ,  $S(O_2)$ , or  $NR^c$ ;

143  $Y$  is a covalent bond,  $CH_2$ ,  $C(O)$ ,  $C=N-R^c$ ,  $C=N-OR^c$ ,  $C=N-SR^c$ , O, S,  $S(O)$ ,  $S(O_2)$ , or  
 144  $NR^c$ ;

145  $Z$  is N or CH;

146 one of U and V is N, and the other is  $CR^c$ ; and

147  $W$  is O, S,  $S(O)$ ,  $S(O_2)$ ,  $NR^c$ , or  $NC(O)R^c$ ;

148 in which each of  $R^a$  and  $R^b$ , independently, is H, alkyl, aryl, heteroaryl; and each of  $R^c$   
 149 and  $R^d$ , independently, is H, alkyl, aryl, heteroaryl, cyclyl, heterocyclyl, or alkylcarbonyl.

150

151 39. The method of claim 38, wherein the disorder is rheumatoid arthritis, sepsis, Crohn's  
 152 disease, multiple sclerosis, psoriasis, or insulin-dependent diabetes mellitus.